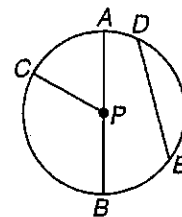


10-1 Skills Practice Circles and Circumference

For Exercises 1–5, refer to the circle.

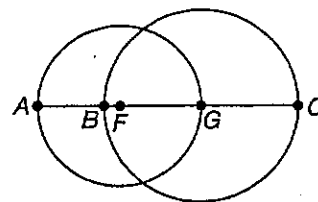


1. Name the circle.
2. Name a radius.
3. Name a chord.
4. Name a diameter.
5. Name a radius not drawn as part of a diameter.
6. Suppose the diameter of the circle is 16 centimeters. Find the radius.
7. If $PC = 11$ inches, find AB .

The diameters of $\odot F$ and $\odot G$ are 5 and 6 units, respectively. Find each measure.

8. BF

9. AB



The radius, diameter, or circumference of a circle is given. Find the missing measures to the nearest hundredth.

10. $r = 8$ cm

$d = \underline{\hspace{2cm}}, C \approx \underline{\hspace{2cm}}$

11. $r = 13$ ft

$d = \underline{\hspace{2cm}}, C \approx \underline{\hspace{2cm}}$

12. $d = 9$ m

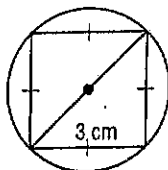
$r = \underline{\hspace{2cm}}, C \approx \underline{\hspace{2cm}}$

13. $C = 35.7$ in.

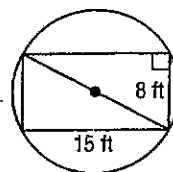
$d \approx \underline{\hspace{2cm}}, r \approx \underline{\hspace{2cm}}$

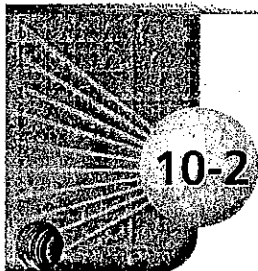
Find the exact circumference of each circle.

14.



15.





10-2 Skills Practice

Angles and Arcs

ALGEBRA In $\odot R$, \overline{AC} and \overline{EB} are diameters. Find each measure.

1. $m\angle ERD$

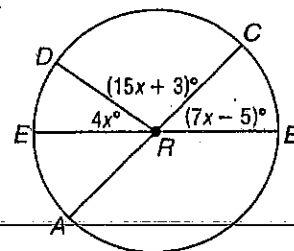
2. $m\angle CRD$

3. $m\angle BRC$

4. $m\angle ARB$

5. $m\angle ARE$

6. $m\angle BRD$



In $\odot A$, $m\angle PAU = 40$, $\angle PAU \cong \angle SAT$, and $\angle RAS \cong \angle TAU$. Find each measure.

7. $m\widehat{PQ}$

8. $m\widehat{PQR}$

9. $m\widehat{ST}$

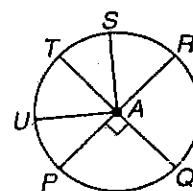
10. $m\widehat{RS}$

11. $m\widehat{RSU}$

12. $m\widehat{STP}$

13. $m\widehat{PQS}$

14. $m\widehat{PRU}$



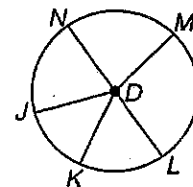
The diameter of $\odot D$ is 18 units long. Find the length of each arc for the given angle measure.

15. \widehat{LM} if $m\angle LDM = 100$

16. \widehat{MN} if $m\angle MDN = 80$

17. \widehat{KL} if $m\angle KDL = 60$

18. \widehat{NJK} if $m\angle NDK = 120$



19. \widehat{KLM} if $m\angle KDM = 160$

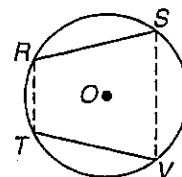
20. \widehat{JK} if $m\angle JDK = 50$

10-3 Study Guide and Intervention

Arcs and Chords

Arcs and Chords Points on a circle determine both chords and arcs. Several properties are related to points on a circle.

- In a circle or in congruent circles, two minor arcs are congruent if and only if their corresponding chords are congruent.
- If all the vertices of a polygon lie on a circle, the polygon is said to be **inscribed** in the circle and the circle is **circumscribed** about the polygon.

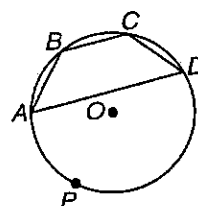


$\overline{RS} \cong \overline{TV}$ if and only if $\overline{RS} \cong \overline{TV}$.
 $RSVT$ is inscribed in $\odot O$.
 $\odot O$ is circumscribed about $RSVT$.

Example Trapezoid $ABCD$ is inscribed in $\odot O$.

If $\overline{AB} \cong \overline{BC} \cong \overline{CD}$ and $m\widehat{BC} = 50$, what is $m\widehat{APD}$?

Chords \overline{AB} , \overline{BC} , and \overline{CD} are congruent, so \widehat{AB} , \widehat{BC} , and \widehat{CD} are congruent. $m\widehat{BC} = 50$, so $m\widehat{AB} + m\widehat{BC} + m\widehat{CD} = 50 + 50 + 50 = 150$. Then $m\widehat{APD} = 360 - 150$ or 210 .



Exercises

Each regular polygon is inscribed in a circle. Determine the measure of each arc that corresponds to a side of the polygon.

1. hexagon

2. pentagon

3. triangle

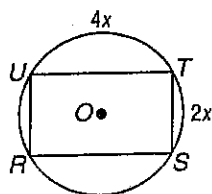
4. square

5. octagon

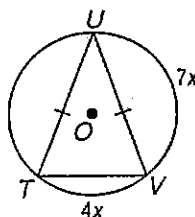
6. 36-gon

Determine the measure of each arc of the circle circumscribed about the polygon.

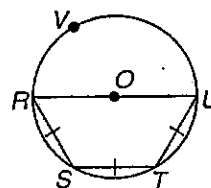
7.

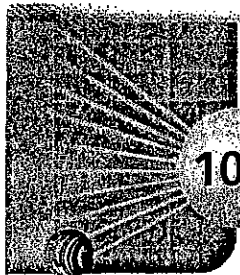


8.



9.

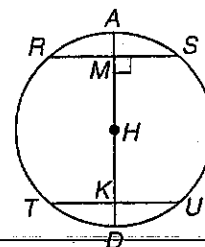




10-3 Skills Practice

Arcs and Chords

In $\odot H$, $m\widehat{RS} = 82$, $m\widehat{TU} = 82$, $RS = 46$, and $\overline{TU} \cong \overline{RS}$. Find each measure.


1. TU

2. TK

3. MS

4. $m\angle HKU$

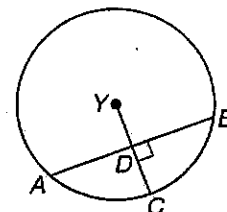
5. $m\widehat{AS}$

6. $m\widehat{AR}$

7. $m\widehat{TD}$

8. $m\widehat{DU}$

The radius of $\odot Y$ is 34, $AB = 60$, and $m\widehat{AC} = 71$. Find each measure.


9. $m\widehat{BC}$

10. $m\widehat{AB}$

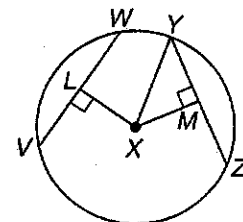
11. AD

12. BD

13. YD

14. DC

In $\odot X$, $LX = MX$, $XY = 58$, and $VW = 84$. Find each measure.


15. YZ

16. YM

17. MX

18. MZ

19. LV

20. LX